

Workplace Surveillance at the World Trade Center Site



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**Thanks to the
HETAB Industrial Hygiene and
Medical Sections,
the Branch Office, especially
Allison Tepper, Dawn Tharr, and DART**

Occupational Surveillance at the World Trade Center Site

- **Background:**
Setting the stage
- **Illness/Health**
- **Injury**
- **Exposure**



Within our work-group at NIOSH
we asked: “How can we respond in a
positive way to such a tragedy?”

HETAB's Initial Response 9/11

- Pulled together potential Hazards, Risks, Recommendations specific to the WTC site
- Topics ranged from dust, blood borne pathogens, unstable structures, injuries, heavy metals, CO, confined space, to heat stress



**NIOSH First Responders
arrived September 12, 2001:
Major Concern was DUST**

Emotional Environment Still “Search and Rescue”

- Almost 5000 missing, not yet presumed to be deceased
- Workers determined to stay until all were rescued
- Health and Safety on the back burner





WALL OF PRAYERS

WALL OF PRAYERS

MISSING



Missing Loved One
Mario Nordone
Age 33
Height 180lbs
Weight 170
Please Contact Linda Nordone
718-907-7602

PLEASE!!
IF YOU SEE THIS PERSON
Judith Sierra-Dias

ANY O'DONERTY
Missing since 1994
Please contact the family
for more information

MISSING
GEOFF CAMPBELL
(Possibly on Long Island)
Please help for the restoration
any info for the
any info for the

NAME
AGE
HEIGHT
WEIGHT
CONTACT

Missing since
6 feet tall
200 lbs
Weight 170
Please contact the family
for more information

Multi-Organizational Environment!

- **FEMA RULES!**
- **NY Office of Emergency Management (OEM)**
- **NYC Dept of Health**
- **NYC Dept Design Const**
- **NY OSHA**
- **NYPD, EOH**
- **NYFD**
- **USPHS, Army, National Guard**
- **EPA**
- **OSHA**
- **CDC**
- **Red Cross, etc., etc, etc,**



11, East Williamsburg, Brooklyn. Photograph by Lisa Kereszi

A Political Environment !



**Jacques Chirac,
President of France**

**Rudy Giuliani,
Mayor of NYC**

Our Tasks at WTC Site

- **Identify Occupational Health Problems**
- **Identify the Work Forces at WTC**
- **Identify Disease/Injury Trends**
- **Identify and Monitor Exposures**
- **Identify future Medical Surveillance Needs**
- **Disseminate info to decision-makers**

Week 2: Basic Occup Health and Safety: Still a concern

- PPE compliance
- Basic Safety
- Heavy Equipment, cranes overhead
- Hygiene
- *Conflicting and competing issues*



Week 2: Made Respirator Decisions

- Because of changing environment
- NIOSH Coordinated efforts among Agencies for Respirator use
- Developed a rationale for respirator selection
- Tried to influence NYC DOH, workers, about compliance



Identify Work force

By Week 2: A Semi-controlled Environment



Red Tag: Admittance to the Site

**A “Red Tag”
restricted admittance
to the controlled site
starting 9/14:**

**Info collected:
Name, SS#,
affiliation, driver's
license**

**Exempt: NYFD,
NYPD**



Identify Work force

Established Ground Work for a Site-Worker Registry



For NYC DOH , we physically tracked down information from myriad of working groups and met with NY City DOH, NY State Groups, NYFD, NYPD, FEMA, OEM, USPHS, Army, DMAT teams, Bechtel

NIOSH now has formal role in putting forward a registry of WTC site-workers

Identify Work force

Worked Specifically with FDNY concerning Firefighter Registry

- Encouraged the inclusion of specific variables
- Included questions concerning work stress and PTSS.
- Encouraging and providing support for quick turn around of information, as this is the heaviest exposed group at WTC



Worked with NYC Fire Department on Biological Monitoring

- With CDC/NCEH lab, assisted NYFD on bio-monitoring based on exposure to the Rubble Pile
- Obtained blood and urine for: PAHs, solvents, PCBs, dioxins, furans, metals



NIOSH Worked with Disaster Medical Teams, reviewed on-going injury surveillance



- Insured that DMATs prepared for on-site specific occupational health emergencies: H₂S, CO
- Followed up injury records
- Provided NYC DOH information on specific occupational injuries, illnesses

Identify Exposures

Conducted Industrial Hygiene Monitoring

- Asbestos
- Silica
- Acid Gases
- Metals scan
- Mercury
- PAHs
- Organic Solvents



Identify Exposures

Conducted Industrial Hygiene Monitoring (2)

- Freon 22
- Respirable and total dust
- Bulk samples
- CO
- PCBs
- H₂S, HCN
- Diesel exhaust
- Thermal tubes





Monitored Urban Search and Rescue Teams: Potentially highly exposed



IH Sampling: Number Collected

■ Acid gases	39	■ Mercury	14
■ Asbestos (NIOSH)	61	■ Metals	53
■ Asbestos (C)	700	■ PAHs	12
■ Bulk Sample	36	■ Respirable Dust	23
■ Carbon Monoxide	57	■ Total dust	43
■ Silica	23	■ Thermal Tubes	12
■ Diesel	12	■ VOCs	92
■ Freon 22	7		



Identify Exposures

Conducted Carbon Monoxide Monitoring and follow-up



- **Welders and Cutters** found to have high CO peaks
- **Prevention:** Industrial Hygiene measurements, Recommendations
- **Treatment:** Worked with DMAT teams for monitoring workers exposed, instituted education to workers on CO, insured access to Carboxyhemoglobin levels

NIOSH's Industrial Hygiene Role

NIOSH HETAB
Industrial Hygiene
Section
coordinated
sampling results,
then turned the
task over to
OSHA





Continuing work

Medical Surveillance Issues



We are working with NYC DOH, NYPD, NYFD, State Occupational Health Clinics, clinics in discussions concerning **medical screening and surveillance issues** of workers from the site

Current Activities

Many day-to-day occupational health activities are being now conducted by employers, unions, health care professionals, and institutions. Whether on-going surveillance takes place will require vigilance on NIOSH's and NYCDOH's part.



WTC Cough, Other Respiratory Symptoms

- Physicians in NYC are reporting many cases of both upper respiratory and lower respiratory symptoms
- NIOSH trying to coordinate response with NY Occupational Health Clinic Network



